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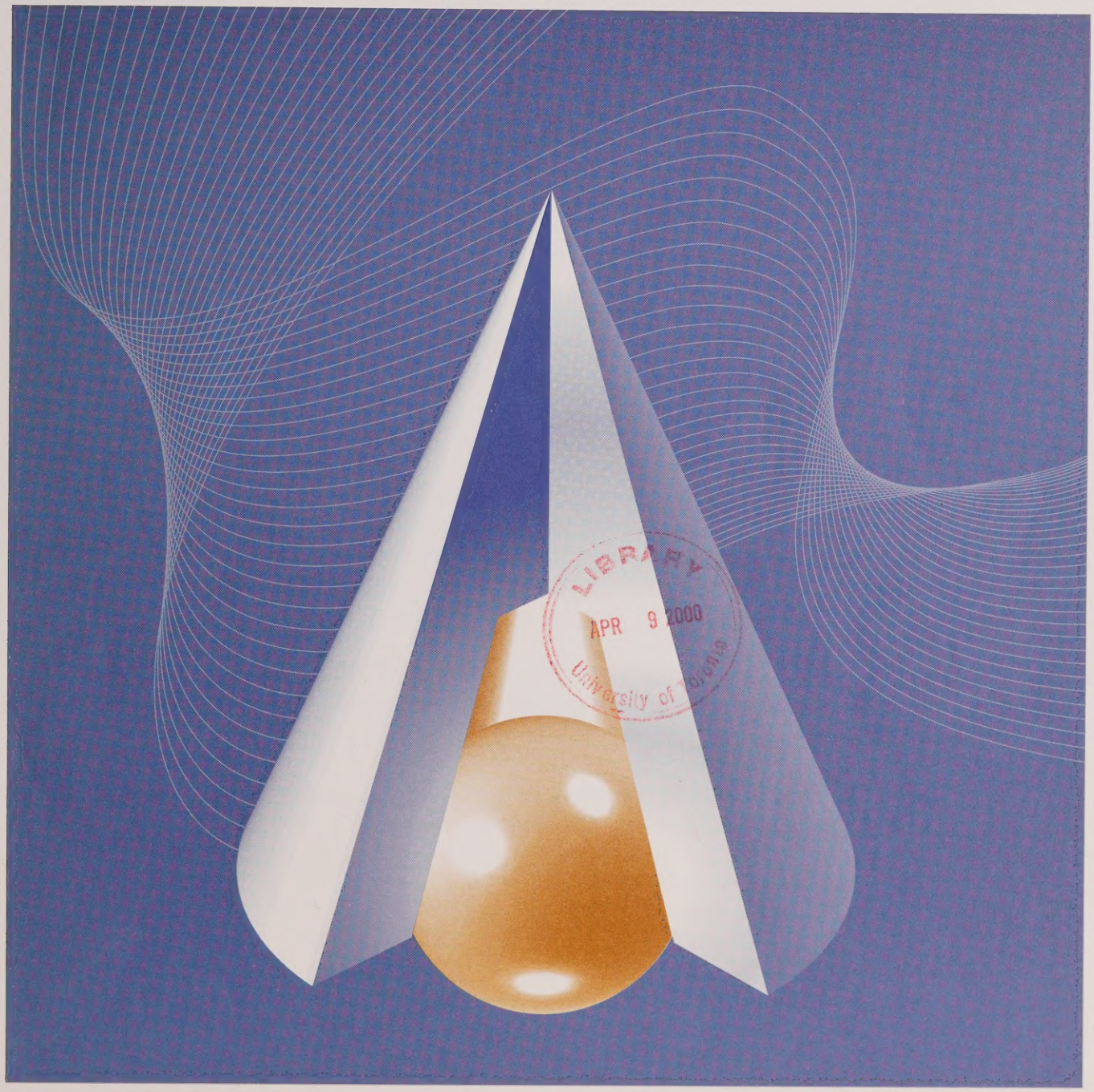
*Job Tenure, Worker Mobility and the Youth Labour Market During the 1990s*

**by G. Picot, A. Heisz and A. Nakamura**

**No. 155**



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by G. Picot*, A. Heisz** and A. Nakamura***

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## *ABSTRACT*

This study examines prominent and emerging labour market trends of the 1990s to see if they have reversed under the pressure of the robust economic growth of 1997-1999. Specifically, it looks at the dramatic rise in self-employment, trends in job stability, and the low youth employment rate over the 1990s. The strong economic growth in 1997-1999 does not appear to have slowed the rise in self-employment, affected job stability, or dramatically increased youth employment rates. For self-employment this suggests that the rise in the 1990s was not primarily driven by slack labour demand forcing workers to create their own jobs. Job stability rose through much of the 1990s, pushed up by a low quit rate associated with low hiring. The best data currently available show that quit rates in particular have remained relatively low (given the position in the business cycle), and job tenure has remained high. There is little evidence that among paid workers job stability has deteriorated in the 1990s. Lagging youth employment rates were due in large part to an increased propensity for young persons to remain in school. Students have a lower employment rate, and a compositional shift towards more young students lowers the overall employment rate for youth. This propensity for the young to be students has not declined in 1997-1999, and as a result youth employment rates remain low by historical standards.

**Keywords:** Self-employment, job stability, youth employment.

JEL: J21, J23, J63

## *Introduction*

There is a general sense that the 1990s labour market was unique. It has been characterized by notions such as "downsizing", "technological revolution", "the rise in the knowledge-based economy", and "rising job stability". During the recovery period of the early 1990s the decade did appear unique in some ways, particularly in comparison with the 1980s. Both hiring and quit rates were depressed in the face of slow growth in paid employment. Workers were turning to self-employment at a rapid rate, and job opportunities for youth fell as did their real and relative wages (Picot and Heisz, 2000; Beaudry and Green, 1996; Lin, Picot and Yates, 1999; Sunter and Bowlby, 1998).

During this period of reduced labour mobility and hiring, concerns about information flows increased. Young people found themselves in a very competitive labour market, and sought every possible advantage to secure employment. Not only were some organizations downsizing, particularly in the public sector, but workers were increasingly reluctant to leave their jobs, thereby decreasing the number of openings for which young people could compete. From the young worker's perspective, job matching information was critical. Employers were perhaps less concerned, given the available supply of labour.

To the extent that these patterns were driven by the weak economic growth of the 1992-96 period, one would expect some reversal in the more recent past. Real GDP growth averaged 2.4% per year during the 1993-96 recovery, but increased to an average 3.8% during the economically stronger 1997-99 period. Along with this came an increase in employment growth, from 1.4% averaged between 1993 and 1996, to 2.6% during the past three years. This more rapid recovery might be expected to significantly increase hiring and quit rates, thereby opening up employment opportunities for the young, allowing the youth employment/population ratio to recover from its historically low level during most of the 1990s. In this environment, youth wages might show some recovery. Labour mobility might be expected to increase, thereby reducing job tenure. Finally, the tendency of workers to turn to self-employment for jobs might be dampened or reversed. In this environment, employers as well as workers may find job matching information critical. The objective of this paper is to ask whether these outcomes were in fact observed. In particular, "expected" levels of labour mobility and tenure based on observed levels of economic growth are determined, and compared with the actual values.

Aggregate employment growth was substantial during the stronger 1997-99 period, and overall unemployment fell to levels associated with recent economic peaks. However, looking beyond these aggregate data one finds a labour market with more complex patterns of hiring, mobility and job creation.

We find that while there was substantial growth in paid employment, there was no associated dampening of the growth in self-employment. Not only did self-employment not decline in the face of rising opportunities in paid jobs, it continued its rapid growth. This is consistent with earlier findings that the growth in self-employment through the 1980s and 1990s was independent of economic performance, rising in both recessions and expansion (Lin, Picot and Yates, 1999).

We further find that the recent increase in paid employment was associated with increasing job tenure; the incidence of job starts showed little increase. Labour mobility data indicate that the quit and hiring rates were depressed during the first half of the 1990s as one would expect given the slow economic growth. But beyond that, based on the limited available data on quits and hires for the 1997-99 period, the analysis suggests that the rates remained low to the end of the decade. These rates may even be below what was "expected" based on the level of economic activity in recent years. Associated with this is high job tenure and low labour mobility. The movement of workers among firms in response to structural changes or inter-firm competition has been low during the 1990s, relative to the 1980s at least.

The youth employment/population ratio remained at very low levels by historical standards, in spite of the recovery. This appears to be largely related to a long-term trend of young people remaining in school longer, however. Using a decomposition technique, we show that what others observed during the earlier 1990s persisted in the late 1990s; the depressed youth employment rates are largely explained by the increasing tendency of young people to remain in school. This is a long-standing trend that has persisted over two decades, and is unlikely to be dramatically reversed for reasons discussed in the paper. There appears to have been a structural downward trend in youth employment rates.

Finally, among the young, there is no evidence that the real and relative wage losses observed during the 1980s and 1990s recessions have in any meaningful way been reversed, at least to this point in the recovery.

The recovery in labour market outcomes has been dramatic, resulting in unemployment and employment rates that are at values associated with cyclical peaks. There is little evidence of substantial wage gains as of the end of the 1990s, however. This has occurred within an environment of high job tenure and low labour mobility. Workers appear to remain reluctant to seek new paid job opportunities. This may be a holdover from the weak job market of the 1990s that could change as the expansion continues.

This paper first outlines the extent of the recovery of the 1997-99 period, contrasts this with earlier periods, and goes on to discuss recent outcomes regarding self-employment, quits, hires, job tenure, and the youth labour market.

## *Macro-Economic Growth During the Recovery Years, 1997-99*

The economic recovery through most of the 1990s was weak, with little sustained growth (of more than a year) until 1997. The economy has posted substantial growth since that time. Real GDP growth over the last three years was an annual average 3.8%, following an average 2.9% during the weaker recovery period of 1993 to 1996 (inclusive). By comparison, real GDP growth during the latter expansion years of the 1980s business cycle (1985-88) averaged 4.3% annually. Employment growth tracked GDP growth (Chart 1). Over the 1980s business cycle, GDP grew at an annual average of around 3%, and total employment expanded by 2%. Over the recession and weak recovery of the 1990s (1989-96), GDP expanded an annual average 1.5%, and employment at only around 0.5%. The average 3.8% GDP growth from 1997 to 1999 resulted in a significant

employment growth of 2.6% annually. Economic growth drove total employment growth to a great extent during the 1990s. Structural changes in the nature of work or the way firms engage labour may have affected the type of employment created.

**Chart 1: Average Annual Growth in Real GDP and Employment**

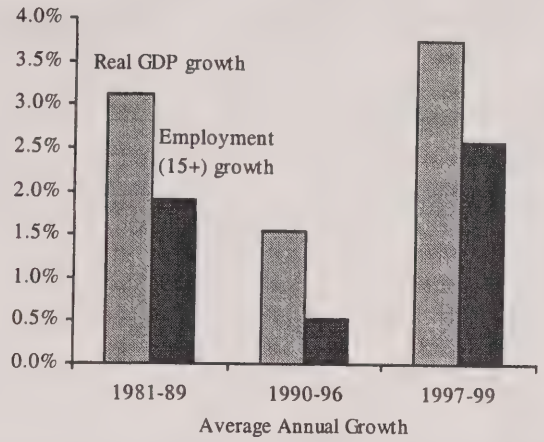
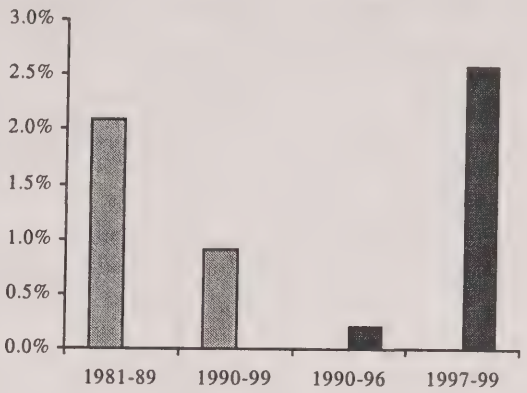



**Chart 2: Annual Percentage Growth in Total Hours Worked**



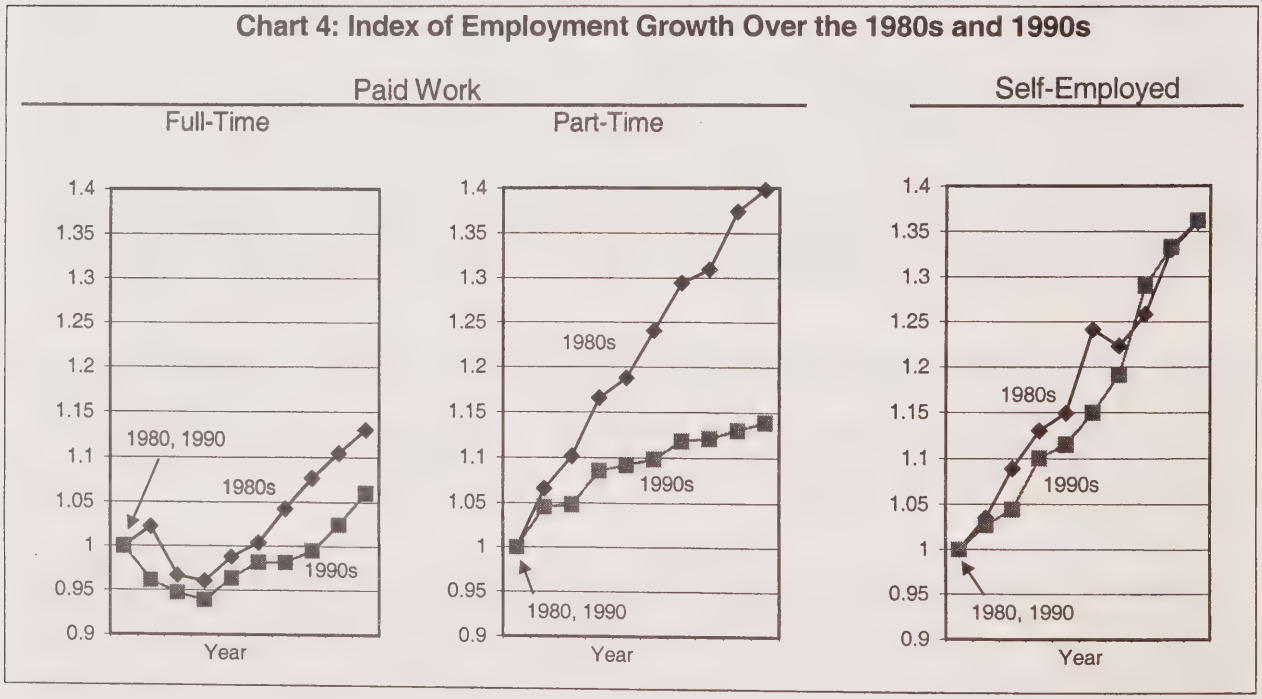

The business sector led the growth in income and expenditures. In 1999, at least, corporate profits before taxes were very strong by historical standards. They increased by about 25% in that year, lifting their share of GDP to 10.7%, a level not seen since the business cycle peak of the late 1980s. During 1997 and 1998 corporate profits registered about 9.4% of GDP, a level substantially higher than the early years of the recovery (1993 and 1994), when they were in the 5.5% to 8.3% range.

Business investment in machinery and equipment, particularly computers and other office equipment, was strong during the 1997 to 1999 period in comparison with the rest of the decade. Over the 1993 to 1996 period investment in machinery and equipment averaged 42 billion per year (in constant 1992 dollars), rising to an average 66 billion over the 1997 to 1999 period. As a percent of GDP, business investment in machinery and equipment was only 5.6% during the weak recovery period of 1993-96 period, rising to an average 7.8% during the 1997-99 period.

While in terms of profits and investment the business sector forged ahead, the household sector made lesser gains over the 1997-99 period as compared with earlier in the decade. Total hours worked increased markedly from a very low growth rate during the first half of the 1990s (Chart 2), but real wage increases have remained elusive. Real weekly wages reported in the Labour Force Survey grew under 1% per year.

To obtain a better measure of changes in the average purchasing power of Canadians, we turn to real disposable income per capita. During the 1993-96 period average annual changes were restricted to 0.4%, rising to 1.3% between 1997-99. This compared with 2.6% during the period near the peak of the business cycle during the 1980s.

The 1997-99 period witnessed rapid growth in real GDP and substantial growth in corporate profits and investment in the business sector. Growth in real personal disposable income per capita remained sluggish during the latter period, but personal expenditures expanded. These events set up a period of significant improvement in the labour market, reversing some of the trends observed in the earlier 1990s. Unemployment dropped significantly, returning to an annual average 7.6% in 1999, equal to the levels observed during the 1980s peak (Chart 3). Full-time paid employment demonstrated strong sustained growth for the first time in the 1990s, growing an average of 3.2% in 1998 and 1999 (Chart 4).



## *No Signs of Waning Self-Employment Growth*

The rise in self-employment in both the 1980s and 1990s has been well documented (Statistics Canada, 1997, LFS Updates). Average annual growth in self-employment was 3.7% during the 1980s, and 3.4% during the 1990s (Chart 4). Various explanations have been put forth. The OECD argued (OECD, 1998) that the rise in self-employment in Canada was highly correlated with the level of labour market slack (the difference between structural and actual unemployment). With structural unemployment declining during the 1990s (Sargent, 1999; Osberg and Lin, 2000), and the aggregate unemployment rate at more or less the same level in the 1990s as the 1980s (Picot and Heisz, 2000), labour market slack increased, resulting in more workers turning to self-employment. But the degree of slack would have fallen significantly over the 1997-99 period, as unemployment fell from 9.7% in 1996 to 7.6% in 1999, with rates in the 6.8% range by the end of 1999. The lowest level of unemployment seen in the 1980s cycle was 7.5% in 1989. Under this explanation, this should have resulted in a decline in the growth of self-employment, or perhaps even an absolute reduction, as workers turned to paid jobs.

But there are other possibilities. Both Blanchflower and Oswald (1998) and Lin, Picot and Yates (1999) observed that there is little correlation between the level of cyclical economic activity and the tendency of Canadians to be self-employed. Self-employment and the self-employment rate[1] grew steadily and independently of the unemployment rate or the availability of paid jobs over the 1980s and 1990s (Chart 5). This suggests factors other than labour market slack are driving the expansion of self-employment. Others have argued that the growth is related to rising levels of personal taxes (Schuetze, 1998), perhaps payroll taxes, changes in technology, or the changing preference of workers for paid and self-employed jobs.

During the recent period of declining labour market slack and increasing paid jobs, particularly full-time jobs, there is little evidence that self-employment has waned. Self-employment grew at an annual average 3.5% over the 1981-89 cycle, 2.9% during the 1989-96 period, and 4.6% over the three years of rapid growth, 1997-99. The proportion of Canadians aged 15 plus in self-employed jobs continued to expand, increasing from 7% in 1981, to 8.2% by 1989, 9.2% in 1996 and 10.1% in 1999. A glance at Chart 5 indicates that this growth was quite independent of changes in unemployment and the paid-employment rate over the last two business cycles. This was substantiated econometrically in Lin, Picot and Yates (1999). This growth occurred in an environment of expanding paid employment. The full-time paid-employment rate (full-time paid employment relative to the population 15+) increased from 39.8% in 1997 to 41.4% in 1999, but remained well below the levels of the 1980s business cycle peak. This was largely related to lower paid employment rates among the young, however. Among other age groups paid employment rates equalled or exceeded their 1989 level (Chart 6). Hence, full-time paid jobs expanded and unemployment fell rapidly to levels observed during the 1980s business cycle peak. In this environment, self-employment continued its climb.

[1] Self-employment divided by the working age population.

**Chart 5: Employment and Unemployment Rates**

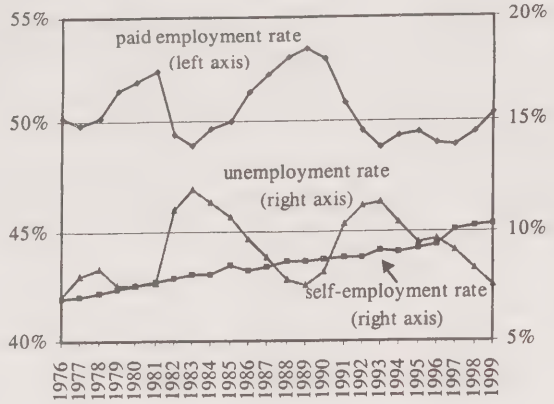
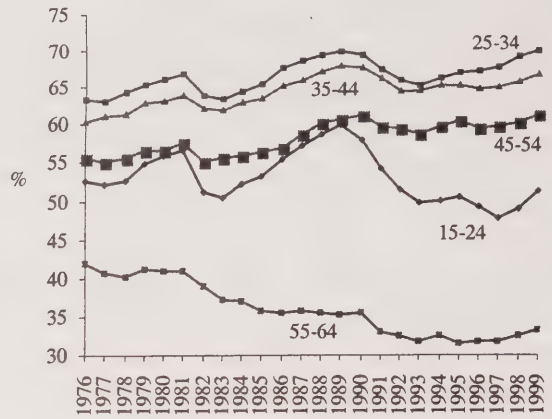



**Chart 6: Paid-Employment Rates, by Age**




Furthermore, the self-employed jobs created during the recent expansion resembled those created earlier in the decade when recovery was slower (Table 1). For example:

- the self-employment jobs created during the recent expansion continue to be predominantly full-time jobs (83%), many in sectors with above average wages (43% in business services).

- the jobs in the 1990s are largely own-account self-employed, and had no employees associated with them (96% over the 1989-96 period, 85% more recently), whereas during the 1980s the self-employed jobs created were much less likely to be own-account (51%).

- self-employed jobs were more likely to be created by men than women. During 1997-99, 62% of jobs created were filled by men, compared to around 50% earlier in the decade and during the 1980s.

- self-employed jobs continue to be created primarily in the 35-54 age group (three-quarters approximately).

**Table 1. Growth in Self-Employment**

| | 1981-89 | 1989-97 | 1997-99 | 1989-99 |
|---|---|---|---|---|
| Net increase over the period (000s) | 413.4 | 558.6 | 127.9 | 686.4 |
| Average per year (000s) | 51.7 | 69.8 | 63.9 | 68.6 |
| Average annual growth rate* | 3.5% | 2.9% | 4.6% | 3.4% |
| Distribution of the net increase over the period | | | | |
| Has paid employees | 49% | 4% | 15% | 6% |
| Own account | 51% | 96% | 85% | 94% |
| Incorporated | 43% | 36% | 29% | 35% |
| Unincorporated | 57% | 64% | 71% | 65% |
| Full-time | 81% | 68% | 83% | 71% |
| Part-time | 19% | 32% | 17% | 29% |
| Primary and construction** | 22% | 8% | 1% | 7% |
| Manufacturing** | 5% | 2% | 10% | 3% |
| Distributive services** | 10% | 13% | 2% | 12% |
| Business services** | 27% | 37% | 43% | 37% |
| Consumer services** | 28% | 26% | 28% | 27% |
| Public services** | 8% | 15% | 15% | 15% |
| Managerial and other professional** | 50% | 34% | 31% | 34% |
| Clerical** | 4% | 4% | 4% | 4% |
| Sales** | 9% | 21% | -21% | 16% |
| Service** | 11% | 17% | 54% | 21% |
| Primary occupations** | 5% | 4% | -9% | 3% |
| Processing machining and fabricating** | 4% | 6% | 17% | 7% |
| Construction trades** | 13% | 5% | 13% | 6% |
| Transport equipment handling** | 3% | 7% | 11% | 8% |
| Material handling and other crafts** | 1% | 1% | -1% | 1% |
| Men | 54% | 50% | 62% | 52% |
| Women | 46% | 50% | 38% | 48% |
| 15-24 | -2% | 2% | -3% | 1% |
| 25-34 | 18% | 6% | -16% | 2% |
| 35-44 | 41% | 37% | 21% | 34% |
| 45-54 | 24% | 37% | 51% | 40% |
| 55-64 | 16% | 12% | 38% | 17% |
| 65+ | 4% | 6% | 8% | 7% |
| Less than high school | 24% | -99% | 10% | -79% |
| High school graduation | 15% | 80% | 38% | 72% |
| Some post secondary | 28% | 87% | 29% | 76% |
| University or higher | 33% | 32% | 23% | 30% |

* Average growth in years 1981-89, 1990-96, 1997-99, and 1990-99
** Data up to 1998 only.

To summarize, there is little evidence that the recent expansion of full-time jobs and falling unemployment is associated with a decline in the growth rate of self-employment, let alone an absolute decline in the number of self-employed that one might expect if many workers were in self-employed jobs, only waiting for an opportunity to get a full-time paid job. To this point in the expansion at least, the earlier evidence that the behaviour of self-employment job creation appears to be independent of business cycle fluctuations appears to hold. Other factors appear to be driving the expansion of self-employment in Canada.

## *Paid Employment Growth is Associated with Rising Job Tenure*

Employment gains during the late 1990s were associated with an increase in job tenure. Job tenure here refers to expected completed tenure of a new job with a firm. Job tenure measured in this way[2] has been rising throughout the early 1990s, and continued to do so in the late 1990s.[3]

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[2] There are a number of different meaningful ways to measure job tenure. One commonly used approach measures the average tenure of currently employed individuals. This is produced annually by the Labour Force Survey (LFS) and is reported in Appendix Chart A1. This measure does not reflect the completed tenure of jobs, but rather the length of jobs at the point in time of the survey, and it is useful since it measures the tenure status of those workers currently employed. Unfortunately, neither the level, nor changes over time in this statistic necessarily reflect actual job lengths or even changes in job lengths. Concerning length, a point in time survey of workers—such as the LFS—undersamples short jobs which biases the length upwards, and does not measure the complete length of the spell, which biases the length downwards. A second way to measure job tenure, which we employ here, is to use survival analysis techniques to estimate the average complete length of all jobs that start at a point in time. The key to this statistic is the retention rate which measures the probability a worker will continue in his job for some specified length of time. For example, let the number of workers with less than one year of job tenure in January 1998 be $N_{0,1998}$ and the number of workers with between 1 and 2 years of tenure in January 1999 be $N_{1,1999}$. The one-year retention rate in January 1999 for workers with less than one year of tenure is defined as $N_{1,1999}/N_{0,1998}$. One can compute retention rates for all possible job lengths. Assuming an exponential survivor function, job tenure can be estimated by $1/\lambda$, where $\lambda=-\ln(R)/t$ where R is the average retention rate for workers, and t is the time interval width (equal to one year in the example given above). Heisz (1999) derives a way to compute the average complete job length without assuming an exponential survivour function, and it is that estimate we show in Chart 7a. However, our results are not sensitive to this choice of methodology. For example, using the average one year retention rates reported in Heisz and Walsh (2000b) and assuming an exponential survivor function, we obtain very similar results as those derived using the Heisz (1999) methodology (Appendix Chart A2). We can also check these results using other data. Recognizing that the average retention rate R is simply 1-(the probability of permanent separation), we compute average job length statistics from the WLF (Worker Longitudinal File). This data gives a longer job length, but the trend over time is similar to that derived from the LFS (Appendix Chart A2). American analysts commonly use retention rates based upon interval widths of 4 years (due to their particular data limitations). Heisz and Walsh (2000b) compute 4 year retention rates for Canada which show a slight decline in job stability in 1998 and 1999. They argue that this drop is due to falling one-year rates in the weaker recovery years of 1994 and 1995.

[3] As noted in the previous footnote, other analysts view job tenure in other ways. Focusing on retention rates in jobs, Heisz and Walsh (2000b) observe rising average retention rates throughout the 1990s, but after controlling for the changing age composition of the workforce, retention rates do not increase in the late 1990s as the job tenure measure used here does. This is because the change in stability of jobs at the shorter end of the tenure distribution (in Chart 7c) affect the average new job duration (our measure) more than they affect the average retention rate. This can be illustrated as follows: Let R1 be the retention rate between <1 and 1 year, R2 the retention rate between 1 year and 2 years, and so on. N and Ni are worker populations. The expected completed tenure of a new job can be computed as Dur= 1+R1+R1R2+R1R2R3+... (the actual formula used is more complex; it is reported in Heisz (1999)), and for the average retention rates, AveRR= R1(N1/N) + R2(N2/N) + R3(N3/N)... The retention rate R1, which has increased significantly in the late 1990s, affects the first measure

Based on LFS data and the methodology described in footnote 2, average expected completed tenure rose from 34 to 44 months between 1991 and 1996, and from 45 to 53 months between 1997 and 1999 (Chart 7a). This trend is confirmed by results based on data from a second source, the longitudinal worker file (see footnote 2 and Appendix Chart 2). This increase is observed among both men and women, across all age groups and among the more highly educated (Table 2). Only the least educated have not experienced increased job tenure in the late 1990s, although tenure does not appear to have fallen for this group.

**Chart 7a: Average Expected Completed Duration of a New Job**

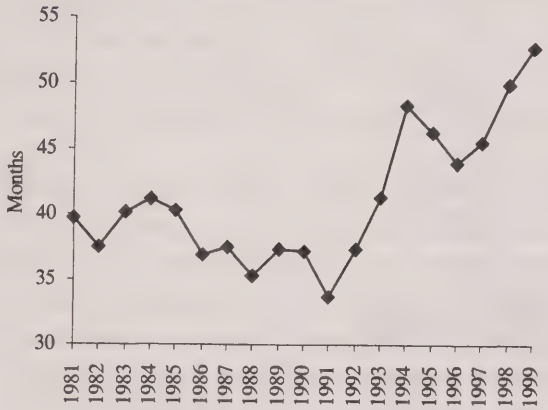
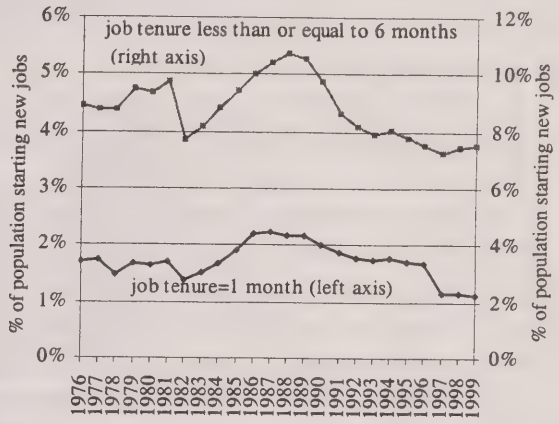



**Chart 7b: Incidence of Entry into Jobs**




Conversely, the incidence of entry of workers into firms appears not to have risen during the 1990s. The incidence of entry is proxied here by the number of jobs that have lasted less than either one month, or six months, as a proportion of the working age population. Both of these series tell the same story (Chart 7b). The decline observed during the recessionary early 1990s shows no sign of recovery, even into the late 1990s. These data are based on LFS, and there is a potential for discontinuity between 1996 and 1997 as a result of changes to the questionnaire. Hence the discrete change in the chart for the incidence statistic based upon job tenure <=1 month. A discontinuity is not evident for the incidence statistic based upon job tenure <=6 months. After accounting for possible discontinuities, no recovery in the incidence of entry to firms is observed. Most of the increase in paid employment appears to be associated with rising job tenure, not increased entry rates.[4]

One can think about these results in another way. In addition to changes in average tenure, significant changes in the distribution of jobs by tenure may also be taking place. There has been

---

more than the second. The expected completed duration of a new job is likely the most informative measure for job tenure studies, whereas the retention rates help understand the level of stability facing workers currently in jobs.

[4] The break in the series between 1996 and 1997 appears to be due to the introduction of a new set of questions designed to estimate labour transitions (i.e. hires and separations) that occur between LFS survey weeks. This seems to result in a reallocation of responses away from one month towards longer durations of 6 months or less. This is shown in Figure 7b. In computing job tenure, we group jobs with low tenure into a single <= 6 months category. Thus, job tenure data for years post and prior to 1997 are comparable.

a sense that the share of jobs that are short-term has been increasing, as firms engage workers on a more "just-in time" basis. Earlier work showed that that was exactly what was happening during the 1980s (Heisz, 1999; Green and Riddell, 1996). This trend changed during the 1990s. The proportion of jobs that are shorter term is now falling (through most of the 1990s recovery). The economy has been producing fewer, not more, short-term jobs. In 1991, 55% of the matches between workers and firms in paid employment had an expected completed tenure of less than 6 months; by 1996 this was 48% (back to the level of the late 1970s). Between 1997 and 1999 this proportion continued to fall, from 42% to 38% (Chart 7c).

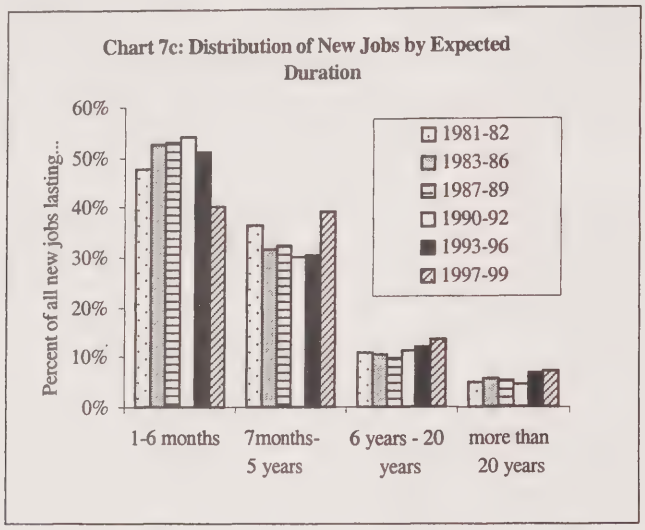



**Table 2: Average Job Tenure (months)**
**- expected completed tenure for new job -**

| | 1981-86 | 1987-89 | 1990-96* | 1997-99 | growth 1997-99/1987-89 |
|---|---|---|---|---|---|
| | | (months) | | | |
| All | 39 | 37 | 41 | 50 | 36% |
| Men | 37 | 36 | 39 | 49 | 36% |
| Women | 40 | 36 | 43 | 51 | 42% |
| Age | | | | | |
| 15-24 | 36 | 30 | 35 | 36 | 19% |
| 25-34 | 49 | 48 | 51 | 65 | 35% |
| 35-44 | 45 | 47 | 44 | 59 | 27% |
| 45-54 | 35 | 32 | 33 | 44 | 38% |
| 55-64 | 21 | 18 | 18 | 27 | 49% |
| Education | | | | | |
| High school or less | | 37 | 34 | 38 | 2% |
| Some post secondary | | 43 | 54 | 58 | 35% |
| University or higher | | 67 | 59 | 74 | 11% |
| *1995-96 only for education groups | | | | | |

## *Rising Job Tenure Implies that Workers are Employed by Fewer Firms than during Previous Periods*

There is a notion that people are moving among jobs and firms more rapidly now than during previous decades. "Lifelong" employment has often said to have disappeared, and firms either lay workers off more often, or workers quit and move to different jobs and firms. However, labour mobility is low in the 1990s as compared to the 1980s. The movement of labour among firms, at least, is not high by historical standards. One way of expressing this is to compute the expected number of starts with any company that a person would have over their lifetime *assuming the age-specific hiring rates of the current period.* This statistic is a reflection of *current* hiring practices of companies. It is simply the sum of the age-specific firm-start rates.[5] The measure does not attempt to anticipate the future, and forecast the actual number of starts that a person would have, given possible changes in hiring practices over the coming, say, 30 years. This statistic is very much a reflection of cross-sectional hiring rates at any point in time.

The expected number of new starts with firms over a lifetime (based on the hiring patterns of the reference year) rose during the 1980s, from an average of around 8 firms during the 1976-80 period, to a peak of 9.5 by 1988, when hiring and quit rates, and overall labour turnover was high (at the business cycle peak). There has been a steady decline since 1989, so that by 1999 this had fallen back to almost 7 firms over a lifetime, back to the levels observed in the 1970s (Chart 8). The gap between men and women in the expected number of firms over a lifetime has fallen; the difference was about 3 in 1976, falling to 1 in 1999. This is simply because women are spending more time in the labour market now, and hence will work with more firms.

[5] The rather straightforward methodology used to compute this statistic is taken from Hall (1982) and Hasan and de Broucker (1985). The proportion of persons with companies six months or less is used as a proxy for the number of new starts over a six month period. The annual number of new job starts by an average person in an age group is twice the fraction of that group found in the 1 to 6 month category. This is computed for each of the age groups 15-16, 17-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, and 65+. The number of new starts is summed over all age groups to compute the expected number over a lifetime. Hence, this statistic is simply the sum of age-specific start rates. Rates are computed for the population 15+ excluding jobs started while a full-time student.

**Chart 8: Expected number of Firms-Starts Over a Lifetime (Based on Firm-entry rates of the year indicated)**

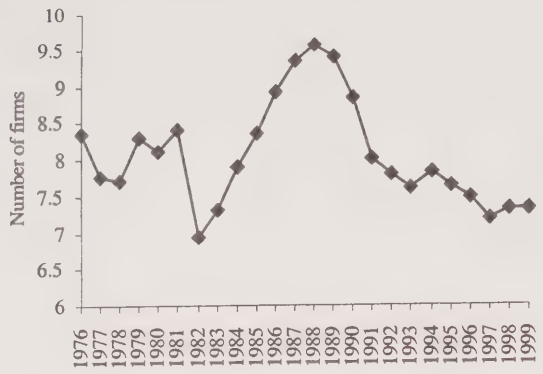
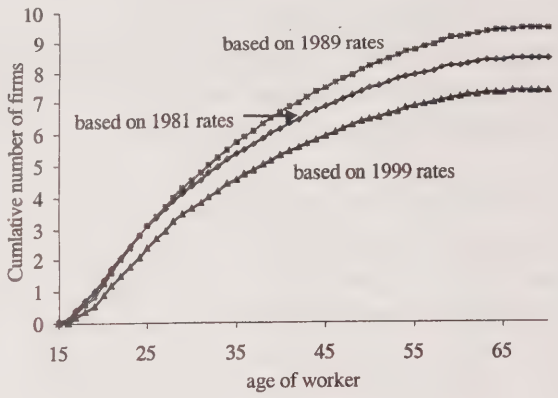



**Chart 9: Average Number of Firms with which a Worker will Start, by Age**




Not surprisingly, most of the changes among firms occur when workers are young. The cumulative number of firms with which a person can expect to work is shown by age in Chart 9. In the 1999 cohort, the expected number of starts with firms over a lifetime is just over 7; almost 4 of these new starts will have occurred by age 30. There are relatively few moves among firms after age 30, on average. This chart also shows that the 1999 cohort more closely resembles those of the late 1970s or 1981, rather than that of 1989, when inter-firm mobility was very high.

These statistics are of course averages for all workers in the entire economy. As noted by Hall (1982), there are pockets of workers in particular segments of the economy who change jobs and companies often, and account for most of the mobility. There are many others for whom mobility is quite rare. These two groups are combined in these averages. Young workers in particular change firms quite often, an average of four times by the time they are 30. The job-matching information needs are substantial when thought of in this light.[6]

## *Hiring and Quit Rates*

The aggregate job tenure data suggest that the incidence of entry to firms remained low as the employment growth was fuelled more by rising job tenure than rising entry rates. Here we ask whether other information substantiates this observation. We know that labour flows, particularly hiring and quits, were depressed during the early 1990s recovery. This observation is

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6 It should be noted that this is not an analysis of how often workers change jobs (within companies), or how often the duties and skills required in a job change. It may be that within companies the tasks that workers perform change more often than used to be the case, or that job changes within internal labour markets occur more frequently. This analysis does not speak to that. If that were the case, then skill acquisition and training would become more important within firms. However, it is clear that inter-firm mobility of workers is not high by historical standards at the end of the 1990s. The 1980s witnessed very high levels of worker mobility. It may be that the sense that firm-changes are high stem from that period. It may also be that the reporting of high turnover in particularly visible sectors, such as the high tech sector, are providing a somewhat biased view of the larger picture.

not surprising given the weak job growth (Picot and Heisz, 2000).[7] In the face of poor job opportunities, quit rates were also low. Permanent layoffs did not rise in the 1990s compared to the 1980s (Picot and Lin, 1997), and hence with lower hiring and quit rates, labour turnover fell in the weak 1990s recovery compared to comparable periods in the 1980s. But what of the more recent period?

There are a number of data sources on quits and hires, each with its own shortcoming. The best source of data on labour flows is administrative-data based, (the Worker Longitudinal File), but this is available only to 1996. To obtain current data one must turn to a very short series on hires and quits from the Labour Force Survey, initiated in 1998. Alternatively, quits and hiring rates can be computed from SLID[8], but only for the 1993 to 1998 period. There is no single adequate source for current hiring and quit rates.

## *The Depressed Hiring Rates During the 1990s*

The various *hiring rates* are displayed in Chart 10. The hiring rate here is the number of hires (in paid jobs) as a proportion total employment in paid jobs.[9] None of the estimates points to a significant recovery during the 1997-99 period. The hiring rates from SLID (annual) and the LFS (monthly) both show a flat hiring rate for 1997, 1998, and 1999 (SLID from 1993 to 1998, and LFS from 1998 to 1999). Recall also that the proxy for the job entry rate used earlier from the LFS (the share of jobs with tenure of less than one month) also displayed no recovery at the end of the 1990s. In spite of the more rapid economic growth and rising corporate profits, the aggregate hiring rate is not seen to increase. However, the hiring rate consists of two components: hiring to meet replacement demand (stemming from quits and permanent layoffs), and hiring due to expansionary demand. One can derive a very simple decomposition of the hiring rate into these two components simply by observing that, between two years the number of hires in firm i is:

$$Hi(t,t+1) = [Ei(t+1) - Ei(t)] + Si(t)$$

---

[7] The quit rate is the number of quits from a firm divided by the number of persons who worked in that firm at any time during the year (the number of person-jobs). This is the number of persons who quit relative to the number who were at risk of quitting. For any group (e.g. province, age), this quit rate is the average across all firms. The hiring rate is the number of hires divided by the number of persons employed in the firm at any time during the year (i.e. the number of person-jobs). The hiring rate is the average across all firms. Hires are computed as a residual in the Worker Longitudinal file, so that $H(i,t)= [E(i,t+1)- E(i,t)]+S(i,t)$ where E is the number of person-jobs and S the number of permanent separations from all firms in group i (say province), year t.

[8] Survey of Labour and Income Dynamics

[9] This rate will, if anything, underestimate the cyclical change in hirings, since in downturns both the numerator and denominator will decline. A hire in the LFS occurs when a respondent identifies a start date between the end of the reference week of the previous month's survey, and the end of the reference week of the current month's survey. See Tabi, Bowlby, Kinack and Sunter (2000). In SLID a hire is triggered by the start dates in jobs, in the WLF a hire occurs when a person who was not with a firm one year is observed with that firm in the subsequent year.

E(t) is employment at year t and S (t) is the number of permanent separations from firms during that period. The first term on the right represents hiring related to expansionary demand, the second that related to replacement demand. The best data source for this decomposition is the worker longitudinal file (administrative data based), since it provides data on employment and permanent separations at the firm level (see Statistics Canada, 1998). The amount of hiring is largely driven primarily by replacement demand. During the expansionary phase of the 1980s cycle, when expansion demand was at its highest, it accounted for only 10% to 15% of the total hiring rate (Table 3). During recessions, this component is often negative, as employment falls in many firms. On average, expansionary hiring accounted for less than 5% of all hiring over the period. Firms hire primarily to replace people who left, voluntarily or involuntarily. If separations are low by historical standards, so too will be the hiring rate.

**Chart 10: Hiring Rates from Various Surveys**

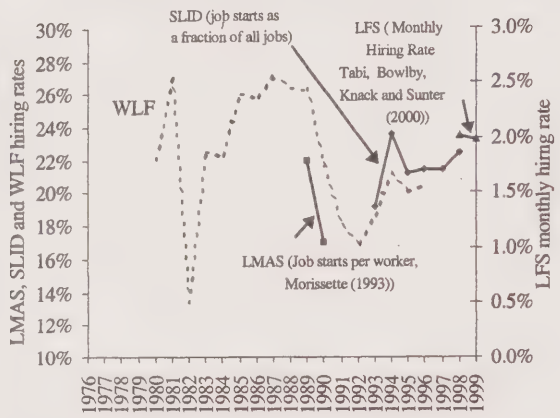


**Chart 11: Quit Rates from Various Surveys**

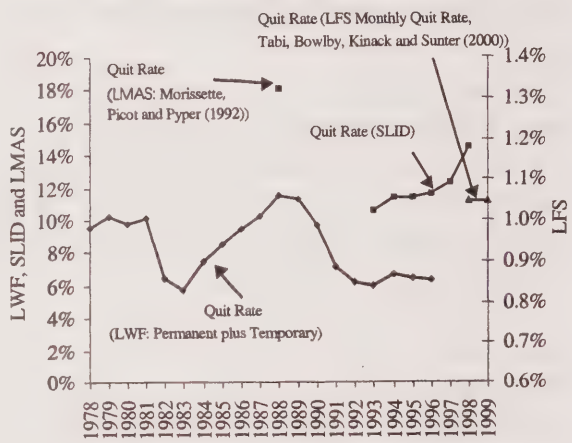

**Table 3: Hiring Rates**

| Year | Hiring Rate (a) | Permanent Separation Rate (b) | Expansionary Hiring Rate (c)=(a-b) | Percent of hiring that is expansionary hiring (c)/(a) |
|---|---|---|---|---|
| | % | % | % | |
| 1978 | | 21 | | |
| 1979 | 23 | 22 | 2 | 6 |
| 1980 | 22 | 21 | 1 | 3 |
| 1981 | 27 | 23 | 5 | 17 |
| 1982 | 14 | 21 | -6 | -44 |
| 1983 | 21 | 19 | 3 | 12 |
| 1984 | 22 | 21 | 1 | 4 |
| 1985 | 26 | 22 | 4 | 14 |
| 1986 | 25 | 22 | 3 | 12 |
| 1987 | 26 | 23 | 3 | 13 |
| 1988 | 26 | 24 | 2 | 9 |
| 1989 | 26 | 23 | 3 | 10 |
| 1990 | 22 | 23 | -1 | -6 |
| 1991 | 18 | 21 | -2 | -13 |
| 1992 | 18 | 20 | -2 | -12 |
| 1993 | 19 | 19 | 0 | -2 |
| 1994 | 21 | 20 | 1 | 7 |
| 1995 | 20 | 19 | 1 | 3 |
| 1996 | 19 | | | |

Source: Worker Longitudinal File

## *The Quit Rate*

Total labour mobility is driven largely by permanent layoffs and quits. Earlier work showed that permanent layoffs were not higher in the early part of the 1990s recovery than during comparable years in the 1980s business cycle, in spite of concerns of decreasing job stability (Picot and Lin, 1997). The data necessary to update this work to 1999 do not yet exist, but it is likely that permanent layoffs would have fallen over the past three years as the recovery strengthened, thereby reducing overall labour mobility. If mobility was to increase significantly, it would be driven by the quit rate.

*Current* data on quit rates (defined as the number of quits divided by person-jobs) is even more scarce than data on hiring rates. There are three sources, again each with its shortcomings (Chart 11). The longest time series comes from the Worker Longitudinal File, where quits are based on the record of employment. This series shows no recovery to 1996 (the latest available data). The quit rate computed from SLID[10] for the period 1993 to 1997 shows a marginal recovery (10%

[10] Survey of Labour and Income Dynamics. Quits include leaving the job due to own illness or disability—work related, own illness or disability—not work related, caring for children, caring for elder relatives, other personal or family responsibilities, school, found new job, move to a new residence, poor pay, not enough hours of work,

gain), but nothing compared to the decline between the 1980s peak and the 1990s (when the rate was reduced by one-half). The rate computed from the new LFS series shows a substantial increase in quits in 1999, as one might expect. Hence, the picture is somewhat mixed. The job tenure data reported earlier (based on both LFS and WLF), however, are consistent with little increase in the quit rate (given that permanent layoffs are likely falling).

These data on tenure (from two data sources) and quits and hires suggest that in spite of the recent growth in GDP and paid employment, workers may have remained cautious about leaving jobs to seek new ones.[11] This suggests that workers are not responding to changes in economic growth in the same way as they have in past cycles. They appear more reticent to leave their firms to seek new opportunities. This may be a reflection of a prolonged period of economic insecurity, and the sense that job stability remains precarious. Wage increases tend to reflect this sense, as they remain low to the end of 1999 at least, as will be seen later.

## *The "Predicted" Quit and Hiring Rates for the Late 1990s*[12]

We turn to econometric modelling to assess whether workers and firms did not respond to economic growth during the late 1990s in the way that they did during the 1980s. First, provincial level data for the 1979 to 1996[13] period are used to establish the relationship between the quit and hiring rates and a cyclical indictor. The dependent variable in two pooled time-series cross sectional GLS regressions[14] is the log of the quit and hiring rates.

One can think about a number of possible cyclical indicators, including the percentage growth in GPP, and the deviation of GPP from trend. The percentage *growth* in GPP represents the change in economic activity, and might be expected to be correlated with the hiring rate (at least the expansionary component of the rate). When the economy picks up, firms seek workers as a result

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too many hours of work, poor physical conditions (bad ventilation, noisy etc.), sexual harassment, personnel conflict with employer/other employees, work too stressful, and to concentrate on other job.

[11] This analysis uses rates that are not adjusted for compositional changes in the workforce. Since quits tend to be lower among older than younger workers some of the decline could be related to the aging of the workforce. It is unlikely however that compositional changes which happen slowly over time drive the substantial swings we see in the quit and hiring rates. Nevertheless, Heisz and Walsh (2000a) performed a similar analysis using raw quit rates, plus rates derived holding the age, gender, industrial and firm size composition of the workforce constant and found that compositional changes played a relatively small role in the trend decline in quit rates.

[12] This section draws from Heisz and Walsh (2000a). More detail can be found in that paper.

[13] Data were available for 1979-95 for quits and 1980-96 for hires.

[14] Specifically, the model is a pooled time series cross sectional model of the form:
$\ln(DV)_{it} = \beta_0 + \beta_1 \ln(CYCLE)_{it} + \beta_2 PROVINCE_i + \beta_3 PROVINCE*CYCLE + V_{it}$ where i indexes the 10 Canadian provinces and t indexes years of time. PROVINCE is a provincial dummy variable. $CYCLE_{it}$ is our cyclical indicator term. The error term is assumed to be cross sectionally heteroskedastic, time wise autoregressive (within panels) and cross sectionally correlated. The degree of autocorrelation is allowed to vary between provinces. One PROVINCE dummy is omitted, and the interaction term between PROVINCE and CYCLE allows the elasticity of the dependant variable to vary among provinces. The model is estimated using GLS. Provincial estimates are weighted by their respective cell sizes.

of the expansion. However, as noted earlier, the expansionary component of hiring is small relative to the component related to replacement demand, and for reasons mentioned below, this is more likely to be related to some version of a *level* rather than a growth variable. Hence, a second possible indicator is not a growth measure, but one that measures the *level* of economic activity relative to a longer term trend. It might be expected to be more closely correlated with the quit rate, since it is not necessarily the growth in GPP that determines whether a worker will choose to quit, but where the economy stands relative, to say, the cyclical peak. During a period of rapid GPP growth following the depth of the recession, workers may still choose not to quit in large numbers because although hiring is increasing, aggregate employment and job opportunities remain relatively low. It is when cyclical peaks are approached that the quit rate rises substantially. This would be picked up more by deviation from trend[15] (a relative level measure) than by growth. And since the hiring rate is driven at least in part by replacement demand, it too would be associated with a level (as well as a growth) variable.

Generally speaking, the historical data suggest that the hiring rate is more closely associated with the GPP growth cyclical indicator, and the quit rate is associated with the indicator that is a measure of deviation from trend. However, the best fit of the historical data are obtained when both cyclical indicators are used in the regression equations. Since we are not attempting to determine to what extent each cyclical indicator "explains" the change in hirings and quits, but rather want to achieve the best fit possible with the historical data (using this to "predict" future hiring and quit rates), we chose to include both cyclical indicators in the regression equations.

[15] The de-trended GPP series is computed by first regressing real GPP [GPP (i,t)] on a linear time variable for each province. A similar model was run to detrend national GDP (results follow: standard errors in parenthesis, * indicates significance at the 1% level).

| | Nfld. | P.E.I. | N.S. | N.B. | Que. | Ont. | Man. | Sask. | Alta. | B.C. | Canada |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Intcpt | 8.641* | 6.962* | 9.168* | 8.894* | 11.455* | 11.928* | 9.639* | 9.656* | 10.865* | 10.722* | 13.113* |
| | (0.015) | (0.016) | (0.036) | (0.032) | (0.020) | (0.029) | (0.017) | (0.030) | (0.043) | (0.021) | (0.014) |
| Trend | 0.022* | 0.038* | 0.027* | 0.032* | 0.022* | 0.029* | 0.018* | 0.015* | 0.020* | 0.028* | 0.025* |
| | (0.001) | (0.001) | (0.003) | (0.002) | (0.002) | (0.002) | (0.001) | (0.002) | (0.003) | (0.002) | (0.001) |
| # obs : | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 21 |
| R-sq | 0.953 | 0.982 | 0.841 | 0.903 | 0.916 | 0.904 | 0.907 | 0.704 | 0.665 | 0.942 | 0.969 |

We then compute the expected value of GPP, exp [GPP (i,t)] from the equation and take the ratio of the actual to predicted value, so that the cyclical indicator for GPP is ln [[act [GPP(i,t)]/ exp [GPP(i,t)]]

**Chart 12: Quit Rate, Actual and Predicted**

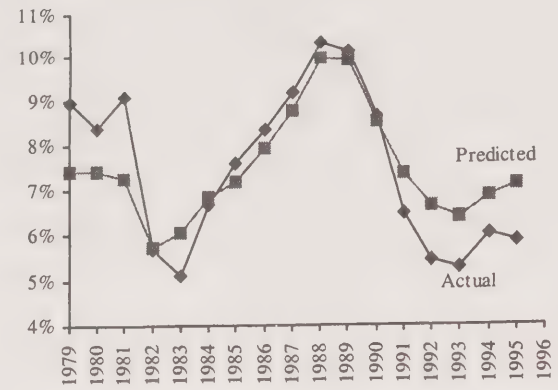
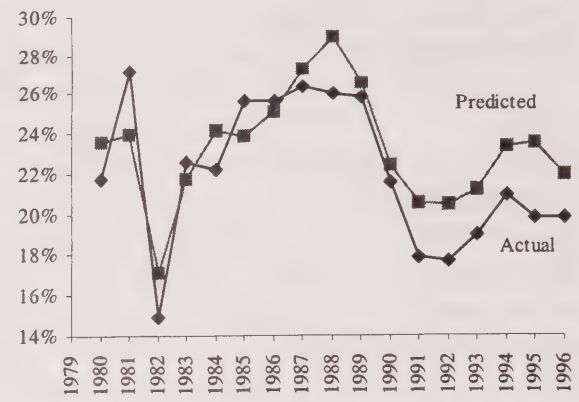



**Chart 13: Hiring Rate, Actual and Predicted**

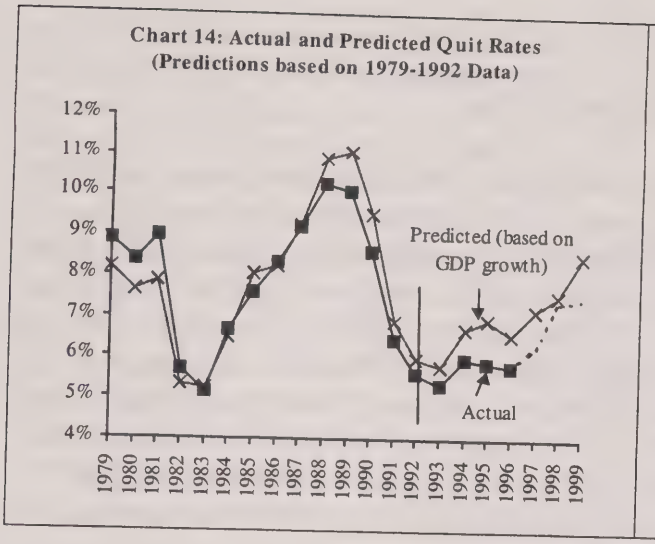


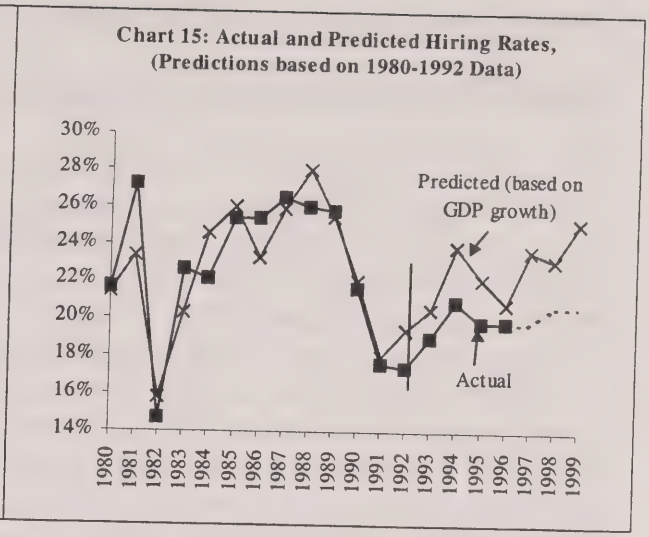

Our strategy has two steps: first we wish to demonstrate the relationship between provincial cyclical indicators and the hiring and quit rates (following the approach in Heisz and Walsh, 2000a). To do this we run our provincial level regression model, compute predicted results, and examine the relationship between the actual hiring and quit rates, and that which is expected given the cyclical variation[16]. Actual and predicted rates (based on both the GPP growth variable and detrended GPP as a cyclical indicator) are shown in Charts 12 and 13.[17] For the *hiring rate*, in the 1990s the predicted values lie above the observed for most years (Chart 13). For the *quit rate*, (Chart 12) and it too shows that during the 1990s the actual values are substantially below those one would expect given where GPP stands relative to its trend.

Next, to assess hiring and quit rates relative to expectations in the later 1990s, we restrict our regressions to the 1979-1992 period and then compute predicted rates assuming that the relationship between GDP and labour flows that existed in the 1980s continues through into the recovery of the 1990s. We turn to a national level model (based on Canada wide data) for two reasons. First, converting provincial rates to a single national rate requires estimates of person jobs which are not available past 1996. Second, provincial GDP data is not available for 1999 (as of the time of writing). The regression results, which are admittedly based on a limited number of observations, are shown in Charts 14 and 15. These results are consistent with those reported from the provincial level analysis.

[16] Regression results are reported in Heisz and Walsh (2000a) or are available from the authors on request.

[17] Of course, with the interaction term in the equation, the association between GPP and quits (or hires) can vary by province. To obtain one single result as shown in Chart 12 and 13, the values of the expected (from the equations) and actual quit and hiring rates are a weighted average across provinces, where the weight is the number of person jobs in the province. The number of person jobs is the denominator in the quit and hiring rates, so this is equivalent to calculating a national expected and actual quit and hiring rate.




The "predicted" *hiring* rates, again based on both a percentage GDP growth variable and a deviation from trend variable, rise significantly during the 1997 to 1999 period. While not back at the peak values observed during 1989, these results suggest that one would have expected a significant improvement in hiring rates. However, the partial data presented earlier suggest that such a recovery in the rates has not been observed. The results are similar for the *quit* rate. The "expected" quits are seen to rise as one would expect in this position in a cycle, but the preliminary evidence available to date, at least, suggest that this increase has not been observed. The dashed line in Charts 14 and 15 for 1997-99 are estimates of the hiring (and quit) rates based on partial information from SLID and the LFS as shown in Charts 10 and 11. While also not expected to be back at the cyclical peak values of the late 1980s, which appear to have been very high by historical standards, the predicted quit rate does display substantial recovery, rising by 2.2 percentage points between the 1993 cyclical trough and the predicted 1999 value. By 1995, quits appear to be low for this position in the cycle (as defined by GDP). There is also reason to believe that quit rates remained low into 1996.

The series on permanent and temporary quits is available through 1996 (the one we reported thus far is permanent quits only). Since few quits are temporary, these series are highly correlated. The permanent and temporary quit rate shows continued decline through 1996.[18] Workers appear reluctant to leave their firms to seek new opportunities.

[18] Permanent and permanent plus temporary quit rates are:

| | YEAR | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
| Permanent quit rate | 8.2 | 8.8 | 8.4 | 8.9 | 5.6 | 5.1 | 6.5 | 7.5 | 8.1 | 9.2 | 10.2 | 9.8 | 8.4 | 6.3 | 5.4 | 5.2 | 5.9 | 5.7 | |
| Permanent + temporary quit rate | 9.9 | 10.6 | 10.2 | 10.7 | 6.7 | 6.1 | 7.8 | 8.9 | 9.7 | 10.8 | 12.1 | 11.6 | 10.0 | 7.5 | 6.4 | 6.1 | 6.9 | 6.7 | 6.2 |

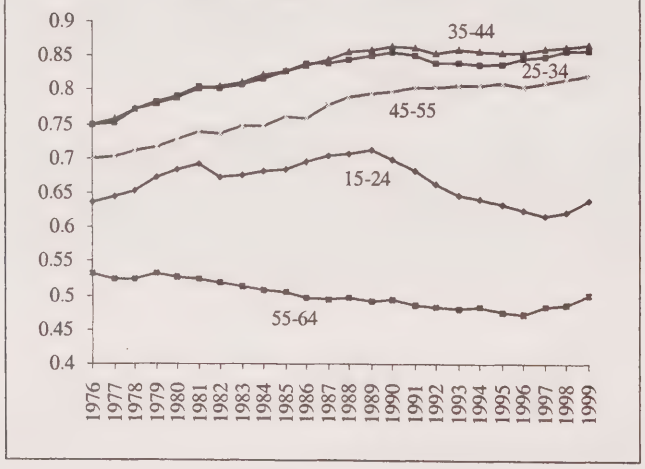
## *Youth Employment and Wages*

### *Youth Participation and Employment Rates*

Perhaps the most significant change in labour market outcomes during the slow-growth 1990s was the dramatic fall in the youth participation rate. Of the overall decline in the rate, the vast majority was concentrated among younger workers. Seventy percent of the shortfall in the overall participation rate during the mid-1990s (relative to the 1989 peak) was due to a significant decline in the youth participation rate (Sunter and Bowlby, 1998). The 15-24 year old participation rate fell from 71.0% in 1989, bottoming out at 61.5% in 1997 and rising to 63.5% by 1999. The decline was due to both falling participation rates among students, and an increased tendency of students to stay in school (Jennings, 1997; Sunter and Bowlby, 1998). These events could have been caused in turn by both deteriorating labour market conditions (which have recently improved), or increasing returns to education (and hence higher school enrolment rates and lower labour force participation rates).

Lower hiring rates during the 1990s (relative to the late 1980s cyclical peak) would likely influence the labour market participation behaviour of youth, the major job seekers in the economy. Lemieux, Beaudry and Parent (1999) show that the general decline in economic conditions was a principle cause of the decline in participation rates for young men *not in school* in particular during the 1990s (although most of the decline was not among this group). During the strong recovery of the 1997-99 period, the participation rates of most age groups returned to their 1989 cyclical peak, or surpassed it (Chart 16). The exception was among the young, where rates remained 7.5 percentage points below the cyclical peak value, and older workers.

**Chart 16: Participation Rates by Age**



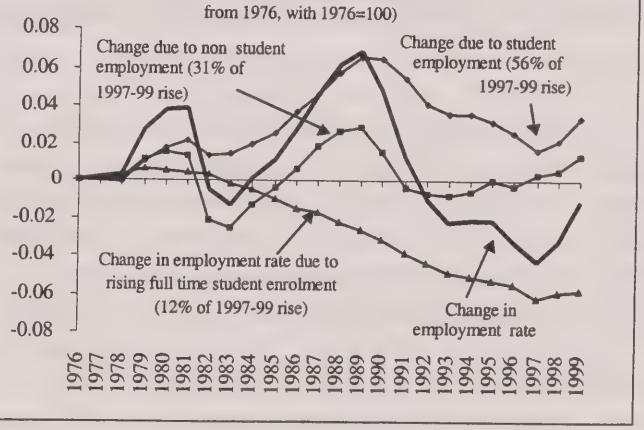

### *A Structural Downward Shift in Employment Rates of the Young Over the Past 20 Years*

In this analysis we turn to the employment rate (the number of workers employed as a share of the age-group population). This is considered to be more relevant for our purposes, since the

emphasis in this paper is on hiring and employment trends. We believe it is a better measure of the ultimate outcome for workers, since it is jobs with which we are concerned, and the proportion of young people who hold them. The change in the youth employment rate resembled that of the participation rate. It peaked in 1989 at 63.2%, fell precipitously during the 1990s, bottoming out at 51.5% in 1997, and rose to 54.6% by 1999. To determine the underlying phenomenon influencing these rates, we decompose the change in the youth employment rate into three factors; the change associated with: (1) the changing employment rates among non-students, (2) changing employment rates among students and (3) the changing share of young people who are students (i.e. changing school enrolment rates).[19] The dominant factor over the past twenty years has been the increased tendency of young people to remain in school. Between the cyclical peak of 1981, and 1999, there has been a steady downward trend in the share of youth employed as a result of this phenomenon, decreasing the rate by fully 6.2 percentage points (Chart 17, Table 4). There has been virtually no change in the tendency of non-students to hold jobs over this period, and the proportion of students holding jobs rose 1 percentage point between 1981 and 1999 (although it is still below the 1989 cyclical peak).

**Chart 17: Decomposition of Youth Employment Rates, 1976 to 1999**

(Change in Employment Rates Due to Three Components; Change Measured from 1976, with 1976=100)




If the increasing tendency of young people to remain in school (i.e. rising school enrolment rates) is the main driving force of the youth participation rate decline over the past twenty years, then where can one expect this to go in the near future. Is this a permanent downward shift in the employment rate. To answer this one has to know why the school enrolment rates rose. Lemieux, Beaudry and Parent (1999) addressed this issue, and concluded that notions such as increasing demand for highly skilled labour or poor labour market prospects are not the principle

[19] The methodology used in this decomposition is described in Jennings (1997). Defining the share of young people who are students as $\gamma$, the employment rate of students as $E_s$ and the employment rate of non students as $E_n$ the year to year change in the employment rates $E=(E_s - E_{s-1})\times(\gamma+\gamma_{-1})/2 + (E_n - E_{n-1})\times((1-\gamma)+(1-\gamma_{-1}))/2 + C$. "-1" indicates a lagged term. The first term is the part of the change in employment rates due to changes in student employment rates, the second term is the part due to changes in non-student employment rates, and the residual (C) is the part due to changes in composition. The data is computed on annual averages where the months May-August are dropped. For Chart 17 and Table 4, terms are accumulated across years.

explanations. They conclude that most of the variation over the past 25 years, and in particular the increases during the 1980s and early 1990s, are associated with the changing size of the school age cohorts. According to this explanation, the increasing importance of education in the "knowledge based economy" has little to do with the rise in school enrolment rates, and neither does deteriorating labour market conditions.

If this explanation is valid, what does the future hold? Looking into the near future, by 2004, the 18-23 (post-secondary) cohort size will be driven largely by births during 1981 through 1986, whereas in 1999 it was driven primarily by births during the 1976-81 period. There was little increase in the size of the birth cohort between these two periods. The average number of births rose 2.5% between 1976-81 and 1981-86. Hence, if this explanation holds, the enrolment rate of young people will not fall markedly, and hence will not result in significant increases in the aggregate youth employment rate. Even if this explanation is not entirely valid, it seems unlikely that the perceived relative returns to higher education will fall in the near future, something that would result in students turning away from higher education. It seems unlikely that the share of youth choosing to stay in school will fall dramatically. Hence, one should not expect the aggregate youth employment (or participation rates) to return to the levels seen 20 years ago. There has been some recovery in the student and non-student rates, however.

## *Changing Employment Rates During the Recent Strong Economic Recovery*

During the stronger economic recovery of 1997-99 an increasing proportion of youth were employed, and this was due not to a drop in the share of young people remaining in school, but by increased employment among students. About 56% of the 3.2 percentage point increase in the youth employment rate between 1997 and 1999 was due to this latter factor (Table 4). A shift away from remaining in school accounted for only about 13% of the increase, and a rise in employment among non-students accounted for the rest (31%). Hence, there appears to have been a structural change in employment patterns of youth over the past twenty years. During both expansions and recoveries alike, the increased tendency of the 15-24 year olds to remain in school has driven down the aggregate employment rate (Chart 17). One explanation has the trend tied to cohort size.

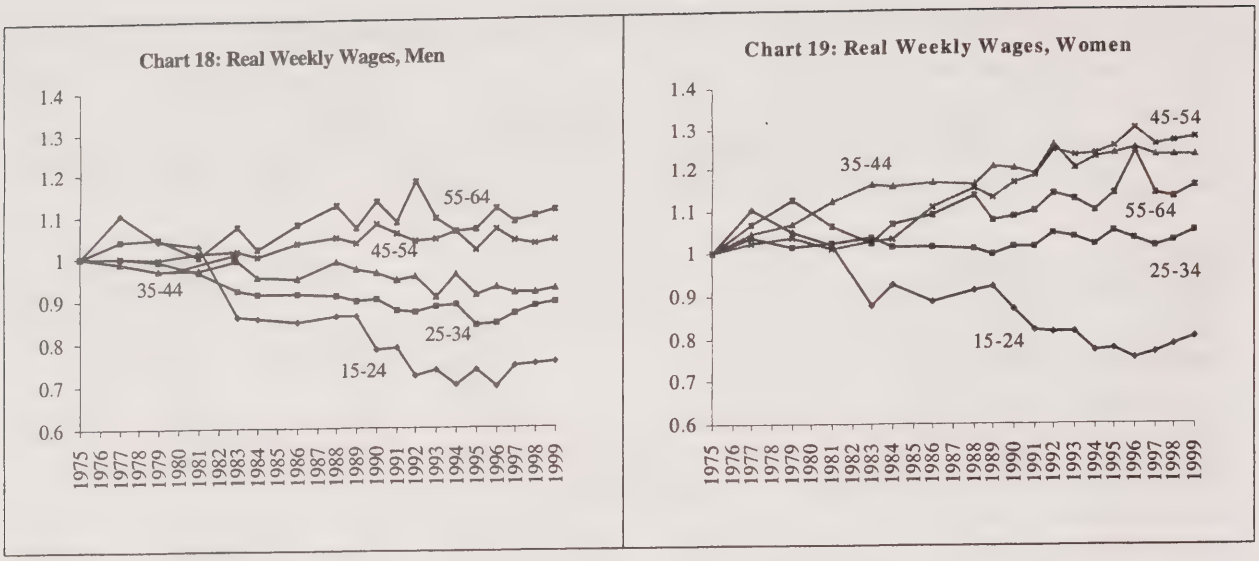
During the recent expansion the partial recovery of the youth rate has been primarily the result of more students working. Among both students and non-students the proportion of young people holding jobs has returned to the level of the 1981 cyclical peak, but remains well below the 1989 peak values (Chart 17). It seems unlikely that one could expect the aggregate employment (or participation) rate to return to the levels observed twenty years ago because of the significant change in school attendance patterns.

| Table 4: Decomposition of the Change in the Youth Employment Rate | | | | |
|---|---|---|---|---|
| | Total Change | Associated with Change in... | | |
| | | the Non-Student Employment Rate | the Student Employment Rate | Full-Time Student Enrolment |
| Period | | | | |
| 1981-99 | -5.0% | 0.0% | 1.1% | -6.2% |
| 1981-89 | 3.0% | 1.6% | 4.4% | -3.1% |
| 1989-97 | -11.2% | -2.6% | -5.0% | -3.5% |
| 1997-99 | 3.2% | 1.0% | 1.8% | 0.4% |
| 1989-99 | -8.0% | -1.6% | -3.3% | -3.2% |

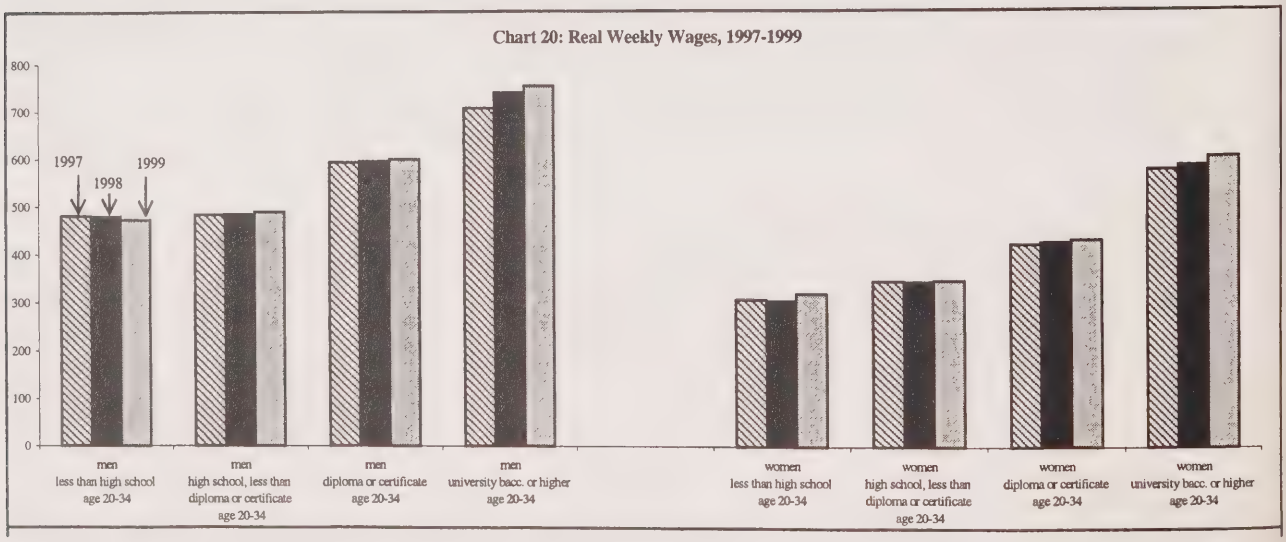
## *Real and Relative Wages Among the Young*

The decline in real and relative earning of the young through the 1980s and 1990s has been well documented (Morissette, Myles and Picot, 1994; Beaudry and Green, 1996; Picot, 1998). It appears as if each successive cohort of young workers entering the labour market through the 1980s and early 1990s has earned less than the previous cohort. This decline seems widespread, occurring in most industries and occupations, and among the less and more highly educated alike. The reasons for the decline are not yet well understood. The decline has been particularly evident among male workers. The pattern appears to be one of a significant decline during recessions, with no recovery during expansions. This trend seems to be persisting during this latest three year period of growth. Charts 18 and 19 show an index of real weekly wages by age group over the 1977 to 1999 period for men and women.[20] Average weekly wages among the young are 75% to 80% of what they were in the late 1970s, and there is no sign of any significant recovery during the 1997-99 period. There was little real wage growth among young males during those years, although there was a stronger upward trend among young women, as weekly earnings rose an annual average 2.1%. In neither case was there a strong recovery relative to earlier declines, however.

[20] The data for the period 1977 to 1997 come from the Survey of Consumer Finances (SCF). This represents average annual weekly earnings from all jobs among all workers. The Labour Force Survey (LFS) started collecting wage data in 1997, and has a series on hourly and weekly wages in the main job for 1997 to 1999. The available data for 1997 from both sources was used to compute adjustment factors to convert the LFS data to estimates of the SCF weekly earnings data.




There is some evidence of increases in average weekly earnings among university educated youth, both real and relative (to the less educated). Chart 20 shows real weekly wages for the 1997-99 period as measured by the Labour Force Survey. Among both men and women, 20 to 34 year olds with less than a university education saw no wage change in spite of the improving labour market conditions. The university educated did register a gain of 6.6% for men, and 4.7% for women. Although not shown here, among workers 35-54, no wage gains of any significance at any level of education were observed in these data. Hence, the one group that appears to be benefitting in terms of wages from the stronger recovery are highly educated youth. Labour market conditions may be improving most significantly among this group. This is consistent with reports by Beaudry and Green, 1996, who argue that rising relative wage for the highly educated are observed among young people, although not among older workers.



## *Summary and Conclusion*

Job tenure, hiring and the successful entry of young people into the labour market have been issues of concern throughout the 1990s. Weak economic growth through 1996 resulted in lower job prospects for the young, particularly it seems for new labour force entrants. Job matching information is obviously at a premium for job seekers during such a period. The period 1997 to 1999 represented years of substantial economic growth, and there is the question of the extent to which trends observed during the 1990 were reversed.

- In the face of high GDP growth, full-time full-year employment expanded significantly and the aggregate unemployment rate fell to levels at or below those observed during the 1980s peak.

- There was no sign of a decline in self-employment, or even a slowdown in its growth, in spite of the increasing opportunities in full-time paid employment. This observation is consistent with earlier work that found that self-employment growth over the past 20 years has not been related to aggregate demand on economic conditions. Other factors appear to have been fuelling this growth in Canada. These have been discussed elsewhere and might include the rising personal and payroll taxes through the 80s and early 90s, improved technology that makes it easier to set up small businesses, an increased sense of entrepreneurial spirit. Factors other than (or at least in addition to) the slack labour market appear to have been driving much of this growth during the 1990s (and 1980s).

- The available evidence suggests that throughout the early and mid-1990s quit and hiring rates have been depressed. These lower rates were the result of low GDP levels (relative to trend) observed during these years, but the analysis suggests that these rates may have been even lower than expected given the GDP trends. This result may have been related to high levels of uncertainty among workers regarding job availability and stability. During the late 1990s, while hiring driven by expansionary demand has increased, the hiring rate is largely driven by replacement demand. This latter factor may have remained low by historical standards, and may be below that expected given the GDP levels observed.

- The low quit rate during the 1990s and the resulting lower labour mobility has resulted in rapidly rising job tenure among paid workers. Expected tenure of a "new" job rose throughout the 1990s, and continued to do so in the late 1990s. This was related mainly to a decline in the share of jobs that are very short. The expansion of paid employment during the recent period may have been driven more by rising job duration than by increased incidence of job starts. This suggests that workers remain cautious in terms of seeking new job opportunities in most segments of the economy. There will be industrial sectors and types of workers that are an exception to this pattern, but overall this appears to be the case, at least to the end of 1999.

- There has been concern during a period of increased "contingent work" and "just-in-time hiring" that the proportion of jobs that were short-term was on the rise. This was true during the 1980s. The 1990s, however, saw a reversal of this trend, and this reversal continued into

the expansionary 1997-99 period. The proportion of paid jobs that are short-term has been falling. This is the main reason why the expected tenure of "new" jobs has been increasing.

- These results can be expressed in another way. The expected number of firms with which workers would work over their lifetime, if hiring rates were to remain at the current level (i.e. during 1997-99), has fallen from the peak of the 1980s. It resembles the pattern observed in the 1970s. During the late 1970s hiring rates were such that on average workers were expected to work for around 8 firms over their lifetime. During the late 1980s this rose to over 9 and by the late 1990s it fell back to almost 7 firms.

- The suppressed hiring (and increased job tenure) likely influenced the youth labour market. Employment (and participation) rates among the young fell precipitously during the 1990s. While there has been some recovery, they remain well below the value observed during the 1989, or even 1981 cyclical peak. However, this long-term decline is associated primarily with the increased tendency of young people to remain in school. It is unlikely that this rising enrolment rate will be quickly reversed, no matter whether its cause is lower cohort size or a perceived increased relative (to other levels of education) return to higher education. Hence, the decline in youth employment rates is likely structural, and a return to the levels of earlier cyclical peaks is not to be expected. Among non-students, the employment rate has returned to the level of the 1981 peak, although it remains below the level of the 1989 peak.

- Average real wages among the young have changed little during the recovery. This is also true of relative (to older workers) wages; they remain low following substantial declines during the 1980s and 1990s recessions. The only group to display any real or relative gains in weekly earnings are the university educated youth (aged 20-35).

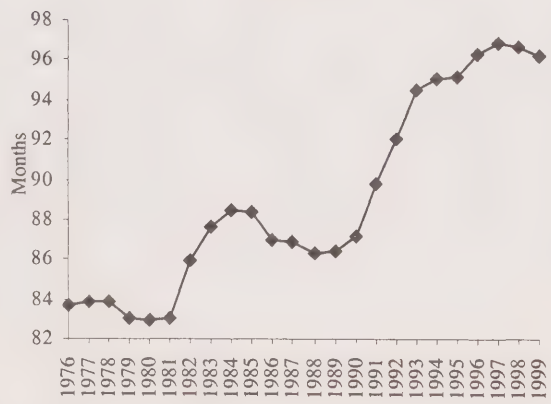
Overall the 1990s labour market has been one of decreased labour mobility, as workers have chosen to remain with their firms longer than during the 1980s expansion, or perhaps even longer than one might have expected, even given the weak GDP performance up to 1996. Preliminary and partial evidence suggests that this reduced labour mobility (given economic conditions) may have continued into the late 1990s. Overall unemployment has fallen quickly, and employment expanded. While this has been occurring in the world of paid employment, self-employment continues to expand. Self-employment tends to be concentrated among more mature (over 35) workers.

# Appendixes

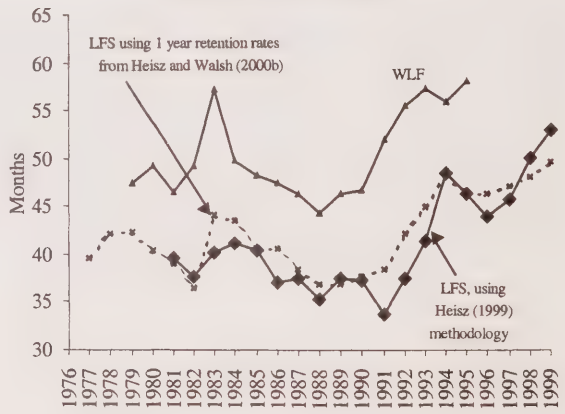
| Appendix Table 1: Canada Wide Regressions* | | |
|---|---|---|
| Depvar: | ln(quit rate) | ln(hiring rate) |
| intcpt | -2.677*<br>(0.031) | -1.345*<br>(0.011) |
| % growth in GDP | -0.784<br>(0.754) | 3.070*<br>(0.396) |
| detrended GDP | 7.526*<br>(0.734) | 1.656*<br>(0.268) |
| R-sq<br># obs : | 0.977<br>14 | 0.967<br>13 |

* Results of regressions of annual observations of the DV (up to 1992), on ln(GDP growth) and ln(GDP difference from trend). Results are corrected for AR(1) using the Prais-Winstern method.

**Appendix Chart A1: Average Interrupted Job Duration**




**Appendix Chart A2: Average Complete Job Duration, Various Sources**



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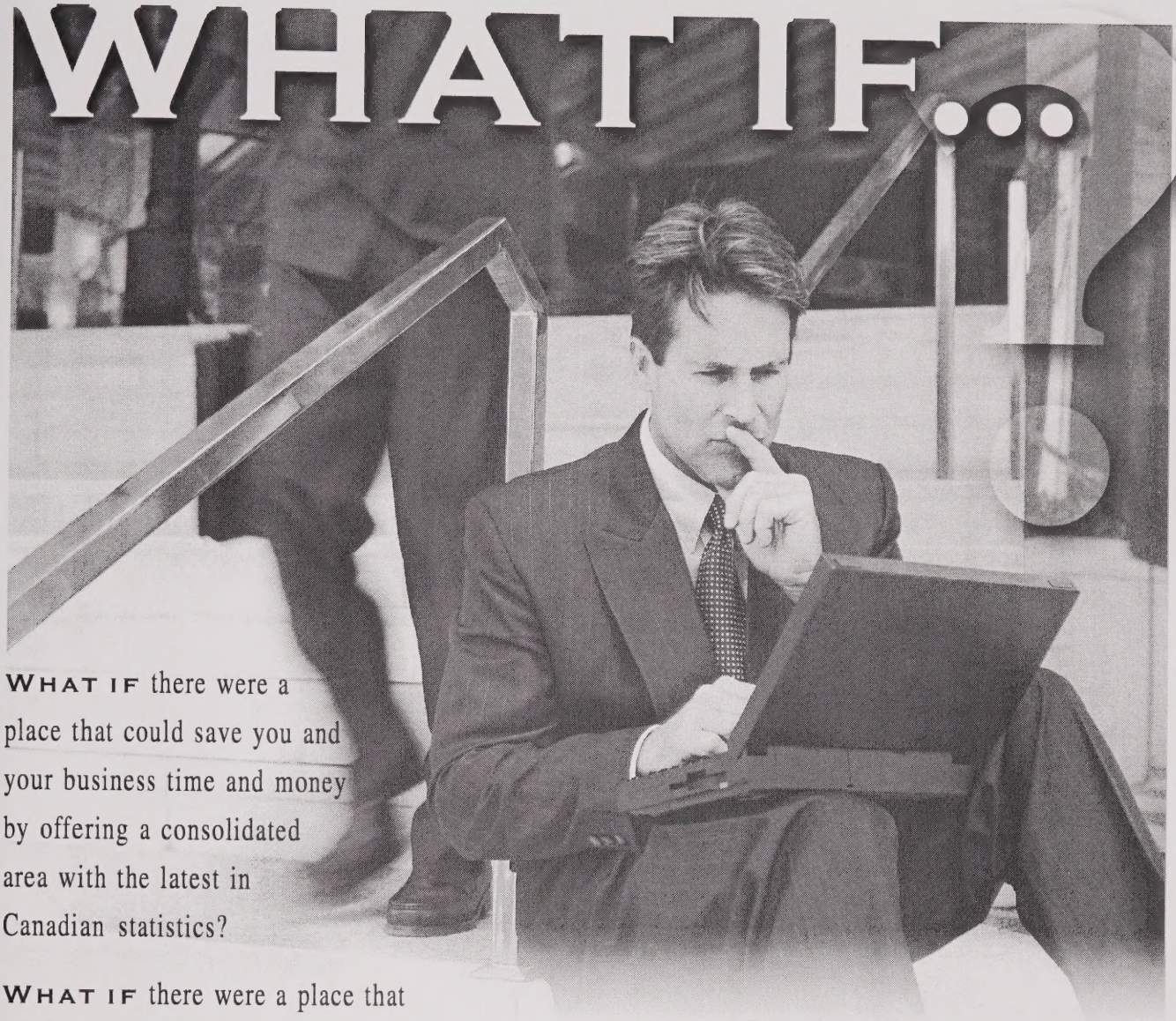

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